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June 1955

Vol. XIV No. 6

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SEE BACK COVER

DENTISTRY

RENAISSANCE

Dear Doctor:

You probably do not know this image from Adam.

It's Mithras — and he represented the power of light in ancient Persia. Since the beginnings of history imaginative ideas, like this, have helped men crystalize their thoughts and express their feelings.

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Very truly yours,

Your Ticonium Laboratory

# tic

A MAGAZINE FOR DENTISTS, DENTAL ASSISTANTS, AND DENTAL HYGIENISTS

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*Opinions expressed by contributors to TIC magazine do not necessarily reflect the views of the publishers*



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Cover artist, Edward Kasper


# "Capitalize" Your Patients

**by Harold J. Ashe**

To a greater or lesser extent every dentist possesses an intangible asset called good will. While sound accounting practice frowns on carrying good will at a book value greater than $1, this good will, in fact, may be a dentist's greatest professional asset, profit-wise.

Certainly a dentist enjoying only a minimum of good will and, perhaps, handicapped by some ill will, is unlikely to enjoy satisfactory professional earnings even under ideal economic conditions. In any event, he is not able to exploit fully his potentials. As between the earnings of two dentists, the large earnings of the one and the small earnings of the other may, in large measure, be explained by the good will which one has and the lack thereof of this important professional asset by the other.

Nevertheless, some dentists make too little real, conscious effort to husband and enlarge this intangible asset, perhaps because of its intangible nature. It cannot be counted and appraised as to value as with stocks and bonds; it cannot be deposited in the bank along with cash receipts; neither can it be reflected in net worth along with accounts receivable.

Good will, carefully nurtured and cultivated for years, can wither and die as though struck by a blight if indifference creeps into professional attitudes and indifference to patients or the community. A new receptionist, by her conduct, can undo in weeks the efforts over the years both of the dentist and previous receptionists. It is easier to drive invaluable patients away by bad office attitudes than to keep patients coming in by the proper atmosphere.

## Evaluating Good Will

Therefore, traditional accounting practices aside, it might be a good idea for dentists to attempt to set some kind of a tangible value on good will, even though this be only for their own enlightenment and as a reminder not to neglect its importance. Evaluating good will is a first step toward giving it the respect which is its rightful due in any practice. Too often, it is easy to assume that patients are satisfied because they come back. What is not so easily determined is the good will loss traceable to those that don't return.

Neither capital invested in a practice nor professional training alone or together can assure a lucrative practice. Only wide acceptance by a community and its individuals, which means good will, can turn professional training and the physical assets of a dentist's office into a profitable practice.

So, to get a proper perspective on the tremendous value of good will as a professional asset, even if an intangible one, let us experiment a little with "capitalizing" good will, just as the physical assets of an office might be inventoried. On his real capital invested in his office and that previously invested in getting his professional training, a dentist expects certain earnings, whether they materialize or not. By the same token, good will, if it truly exists, is an earning factor—even though the professional training, as such, walks off with all of the credit.

"WELL, IF YOU DON'T, I'LL TELL ALL YOUR OTHER CREDITORS THAT YOU PAID ME IN FULL!"

Suppose that a certain family spends an average of $100 a year with a dentist. Further, assume that professional earnings after all expenses are 60 per cent of gross receipts. This means that this family contributes $60 a year to the dentist's net earnings. If this family continues to go to this dentist for ten years, averaging the same annual fees, this means a long-range value of $600. That is, retaining the good will of this family for ten years, instead of its loss at the end of one year, represents additional bankable earnings of $540. This underscores the importance of zealously guarding good will at the individual patient level.

Proceeding a step further, let us arbitrarily assume that net earnings of a practice are traceable to three factors: (1) capital; (2) professional services; and (3) good will. Unlike commercial ventures, capital as an income-producing factor is a minor factor for a dentist. Primarily, he is selling his skills, his professional services. So let us weight his earnings heavily in that direction. Out of the foregoing $60 net earnings, let us credit $50 solely to professional services and divide equally the remaining $10 between capital and good will.

## "Capital" Values of Patients

By this arbitrary formula, the good will factor in the practice, as it relates to this family, has earned $5 net during the year. Capitalizing this amount at 6 per cent, this means the family has a "capital" value of $83.33 so long as the family's good will is retained, and their average annual professional charges are $100. Once such a patient or family of patients is capitalized, it becomes obvious why it is important to a practice not to lose patients that can be salvaged.

Another patient or family averaging $250 a year in professional fees will have a "capital" value of $208.33.

However, this does not indicate the full effect of the loss of good will, because if a patient is needlessly lost, not only are the earnings on the "capitalization" lost, but also the earnings on capital and the far larger earnings credited to professional services. With all of these factors in mind, such capitalization comes into focus. If anything, the arbitrary formula employed errs on the side of understatement of the circumstances in respect to the value of good will as an earning factor.

Moreover, if good will is neglected and is allowed to decline, this will be reflected in an increase in office overhead, percentagewise of receipts. This will further compress earnings. Fixed office expenses go on no matter how much idle time a dentist has.

It is not safe to assume that a dentist has a satisfactory backlog of good will simply because his professional receipts are rising from year to year. This may be explained in part at least because more people have more spendable income. The full impact of the loss of irreplaceable good will may not be felt unless and until there is a reduction in the gross national income. At that point, professional income may suffer sharply even if the national drop is slight. Then, every patient becomes doubly valuable whose good will remains unimpaired.

Nothing here said should be interpreted as suggesting that "capitalization" of good will, as here outlined, is a sound formula for valuing a practice for purposes of selling it. The good will value of a practice is largely a personal matter related closely to the present practitioner. So long as he continues in practice, and he continues to justify that good will, it is his. Conveying that good will to another dentist buying the practice is something else again. In buying or selling a dental practice, many factors enter into a determination of its value including, of course, its past earnings.

# Storing Alginate and Hydrocolloid Impressions

by Cyril B. Kanterman, D.D.S.

It is not difficult to understand why the elastic impression materials have enjoyed wide popularity in recent years. Manufacturers have developed the alginate and reversible hydrocolloid materials to the point where they most closely approach the ideal impression material for most prosthetic techniques. Aside from the obvious advantage that they will pass over tooth and soft tissue undercuts without rupture, they are relatively easy to manipulate, are generally well tolerated by the patient, and, if handled correctly, will reproduce the fine details of the dentition and supporting tissues on the model.

Despite the fact that dentists will take every necessary precaution in the mixing, insertion, and removal of the impression material, the resulting model is sometimes not an accurate reproduction. Although it may not be evident at the time, failure of the completed denture to seat properly indicates that a dimensional change had occurred in the impression material during the time interval from the removal of the impression from the mouth to the pouring of the cast. In most instances, the difficulty can be traced to improper or prolonged storage of the impression.

## Pour Immediately

A cardinal rule is that the model material should be poured into the impression as soon as possible after the impression is removed from the mouth. This is especially important for alginate and hydrocolloid impressions. Since the water composition of the set impression material is approximately 75-85 per cent, the alginate or hydrocolloid impression will lose or gain water, depending upon environmental conditions.[1] The loss of water will result in shrinkage of the impression. Conversely, any gain in moisture will cause the material to swell, again introducing a dimensional change. Thus, the sooner the model is poured, the less opportunity there will be for dimensional change to take place.

[1] Phillips, R.W.: Review of Impression Materials, *International Dental Journal*, 4:711 (Sept.) 1954.

Understandably, it is not always possible to pour the model immediately, but in no case should the impression be permitted to stand for longer than fifteen minutes. The alginate or hydrocolloid impression may be stored during this interim if it is placed in a moist environment. The following technique will permit storage of the impression for short periods of time without excessive loss of water.

A cloth towel is soaked in room temperature water and wrung until most of the water is removed. The impression is then loosely wrapped in the moist towel and placed in a closed container. Loss of water is thus minimized.

## Don't Immerse in Water

Sometimes the impression is permitted to remain exposed to the air for varying lengths of time and then immersed in water prior to the pouring of the cast. The rationale for this procedure is the belief that the impression will imbibe water to replace that lost through dehydration, so that the alginate or hydrocolloid will swell to its original dimensions. Skinner[2] presents evidence to show that even in those cases where the impression material was first

[2] Skinner, E.W., *The Science of Dental Materials*, 3rd ed., W. B. Saunders Co., Philadelphia, 1946, pp. 54-6.

## ADVICE TO THE GRADUATE

Your college days
And college ways
Are over son, and yes

In cap and gown
Step proudly down;
Receive your D D S.

Your mother cries,
Your father sighs,
Your girl is proud as punch,

Your cousins cheer;
They are all here
(They even brought their lunch!)

But son, beware!
Your clan out there
Applauding gleefully

Without a doubt
From now on out
Wants dental work for free.

Nancy Talbert

## CARVING OUT A FUTURE

Doctor William P. Harrison of the University of Southern California School of Dentistry, with carvings made by the students in his dental anatomy class. There are some 3,000 in the collection, representing a quarter of a century of work by his students.

With the aid of a magnifying glass, Doyle J. Davis, freshman dental student, carves a miniature deer. It's class work, not a hobby. Because hand skill is important to a dentist, Doctor William P. Harrison originated twenty-five years ago a creative wax-carving test to determine the manual dexterity of his freshman students.

World Wide Photo

stored in a humidor maintaining a relative humidity of 100 per cent and then immersed, the amount of water gained by imbibition generally exceeded that lost during storage. This was indicated by the fact that in most of the experimental cases, there was a linear increase of the impression material. Thus, the immersion of an impression in water to compensate for any shrinkage that may have occurred is not a good practice.

The question as to whether the dentist should pour the model or have his laboratory do it is best answered by the circumstances of the individual case. Two factors must be considered: (1) time lapse; and (2) temperature changes.

If the lapse of time from the removal of the impression from the patient's mouth to delivery to the laboratory is longer than fifteen minutes, the dentist would do well to construct the model himself. Too much time, effort, and money is involved in the succeeding steps of denture construction to permit an inaccuracy in the model due to improper handling of the impression.

There is also the temperature factor to be considered. The removal of an alginate or hydrocolloid impression from the warm environment of the dental office to a colder environment outdoors probably results in a certain degree of contraction of the material. Likewise, the transition from a cool, air-conditioned office to a humid, hot environment outside may cause expansion.

### Summary

1. For best results, alginate and hydrocolloid impressions should be poured immediately upon removal from the mouth.
2. If necessary, impressions may be stored for a maximum of fifteen minutes using the technique described.
3. Impressions should never be immersed in water, even for short periods.

## ADMISSION OF CONDITION

You'll never get this Doc to say
That he feels *condemned* to stay
Here on the job from June to May
And never get to go away!

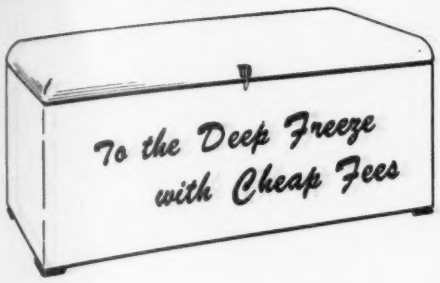
I love my patients and I cleave
To them most loyally. I heave
No sigh when other men achieve
Vacations or a week-end leave!

Oh merrily I grind and drill
And take the plate imprint with skill,
Prescribe the pain and calcium pill,
Smile and bow, and explain the bill!

Yet, now, when I've a certain bent
Toward fishing, I'll make this comment:
*Going to the chair* does represent
A form of *capital punishment!!*

Helen Harrington

**An Editorial Article:**




**by Connie Doyle, D.A.**

Remember the lyrics of a song that said: "Bananas are cheaper"? Years later it was followed by Chiquita cautioning: "No bananas in the refrigerator!"

What have dentists and bananas in common? They mature in clusters around graduation time and both are green at this stage. Bananas ripen on the way to the consumer. Few dentists do.

Take Doctor X for instance. A brilliant, enthusiastic dentist, he battled the location problem. Reared in a large city, green Doctor X fell in love with tiny Settletown, located fifty miles from a city where his dentist-uncle practiced.

Three other dentists held sway in Settletown: Doctor Aging, Doctor Elder, and Doctor Mediocre, the latter a hunting-fishing enthusiast rumored, by the town druggist, to have "heart trouble."

"Here's my chance to be top banana," Doctor X explained to his wife, a pixie-like, adoring brunette as hep as any of her intelligent sisterhood of dental wives. "Our son Tommy will like living here. Okay?"

Mrs. X had a baby-blue eye on the future: "You know, dear, that the practice of dentistry is the most distinctive, exclusive-area medical art in the world—predating many branches of medicine? Dentistry has battled its way up through voodoo and black witchcraft periods; bloodied itself forward past the blacksmith and traveling barber stages, emerging, head unbowed, with the title 'Doctor.' Weathering criticism and blatant advertising storms, it now places third on recognized professions hit parade. After six long years in expensive schools, are you sure this is what you want?"

"Let my uncle keep his city practice," Doctor X replies. "Settletown, Utopia! Doctors Aging and Elder may retire soon. Doctor Mediocre doesn't tend to business and has heart trouble."

"But your uncle warned that some small town fees are low."

"He's just sore because his patients, who once lived here, return here for their dentistry."

As visions of sugarplums served on crisp green bills danced through his head, Doctor X plunged in for equipment with both well-shod feet. His fees were in keeping with this period of prosperity.

Another child or two and five years later Doctor X awakens with a financial hangover. His patients? Few and far between. Doctors Aging and Elder, looking younger every day, are working nights—and Sundays, too.

Doctor X turns to friendly Doctor Mediocre, who confides: "I didn't have heart trouble at all—I was really just heartsick. I came here ten years ago with good fees. After my roots were deep in Settletown, I found that the older dentists here worked for the sheer love of dentistry, luring my patients with cheap-fee baits."

"But why do they sell out dentistry so cheap? My education cost—"

Mediocre interrupts, "Why, it's the same vicious circle. Doctor Elder lowered his fees when younger Doctor Aging moved in to hold his practice. Doctor Aging, learning the hard way, eventually dropped his fees, too, to make a living. I tried reasonable fees but, in debt, I had no choice. We welcome a man like you into our town with one prayer: 'This fellow will educate patients to higher fees—and we'll follow.' But sooner or later you're caught in the web!"

"Not me! I have patients coming in from the city, where my uncle practices, and he tells me his fees are even higher than mine."

"Certainly. But did he tell you that his patients come down here to you because you are cheaper?"

Mrs. X rings a bell. "I remember him griping to you about that very thing!"

## Everything Costs More

Doctor X pretends not to hear. "But dental supplies are going up. Labs must pay more for material and skills. My taxes and office rent have been increased, and I pay my assistant more to hold her. Physicians and attorneys have raised fees, but dentistry remains unchanged from twenty years ago. My family costs more to rear." Doctor X juts forward a determined chin, refusing to cut fees.

But John and Mary and cousin Cary Doe one morning all remarked, "Aren't your extraction fees of three dollars high? Other dentists here charge much less."

Doctor X counters. "What did your physician charge for that penicillin yesterday?"

"From five to ten dollars, but that's not high. The physicians here all charge that much." Peeved,

(continued on page thirteen)

***At Howard University***

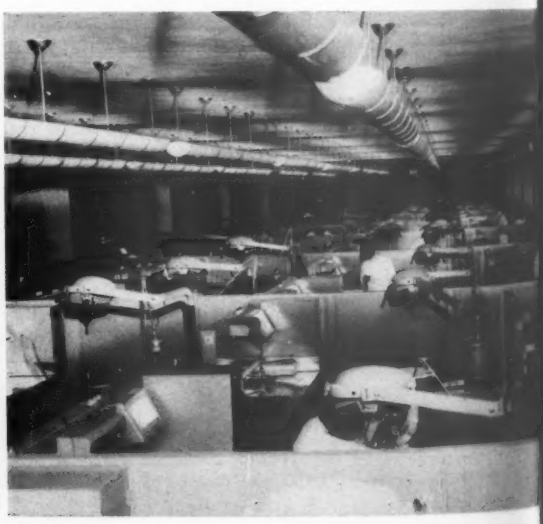
# New College of Dentistry Building at Howard University

Photos and text by Authenticated News

WASHINGTON, D. C.: A new $3,000,000 College of Dentistry building, designed to accommodate 400 students, has been opened at Howard University, Washington, D.C. The new building is a three-story, reinforced concrete and brick structure. Among the features of the new dental building are four pre-clinical laboratories, a general clinic, three classrooms, a library, cafeteria, and student lounge. First floor facilities include administrative offices, conference rooms, offices, store, the preclinical laboratories, locker room, the student lounge, and reception desk. The second floor contains the classrooms, a pre-clinical pathological laboratory, waiting rooms, children's clinic, and clinic for oral diagnosis, X-ray, oral surgery, and orthodontics. Clinical laboratories and general clinics for oral medicine, operative dentistry, crown and bridge work, and denture prosthesis are housed on the third floor.

The operative technique laboratory, containing fifty-four work stations for freshmen and sophomore students. Doctor Herman E. Gaskins, associate professor of operative dentistry, manipulates one of the mannequins which students will use before entering the clinics in their junior year to treat live patients. Each work station contains a mannequin with a simulated dentoform of thirty-two teeth.

The new College of Dentistry building.



The new general clinic. At present the clinic has 127 chairs. Another forty-nine are to be added. Each chair is enclosed in a cubicle which affords the student and patient complete privacy.

# ANGLES AND IMPRESSIONS

### Dental Thisa and Data

This year's graduation of almost 3,000 dental students should fill the needs of the Armed Forces and discontinue the drafting of men in their 40's who are in Priority III. Although it is estimated that only about half of the present graduates will be eligible for service, succeeding classes will have fewer veterans and more graduates will be available for the Army, Navy, and Air Force. . . . The first half of the year has witnessed an increased amount of German-made dental equipment on the market. . . . Although the subject of social security for dentists has been set aside for the present, a spokesman for the Senate Finance Committee has said that ". . . whenever it becomes clear that the dentists want to be included in the system . . . the Senate Finance Committee members will bring them in." . . . The American Dental Association has tempered the enthusiasm of some dentists for the ultrasonic cutting devices by advising an attitude of "ultraconservative consideration" and "withholding judgment on the device until it has been thoroughly perfected and its performance thoroughly proved." . . . The Sixth Annual Berkshire Conference on Periodontology will be held June 19-23. For information, contact Doctor I. Glickman, Tufts Dental College, Boston, Mass. . . . New York University is presenting a workshop course entitled "Writing for the Medical and Scientific Journal." For full information write to NYU's Division of General Education, 1 Washington Square, New York.

### Tic Tips

The investment in a camera for the purpose of dental photography is so insignificant in comparison with the expenditure in outfitting and running a dental practice that it has always amazed us to learn how few dentists are equipped to do oral photography in their office. A good second-hand single lense reflex 35 mm camera, plus all the necessary accessories for close-up photography, can be purchased for less than $100. Aside from a dental pictorial record of cases, color slides of dental work taken before and after rehabilitation construction, the elimination of periodontal disease, and so forth are excellent for patient-education and often break down patient resistance to the acceptance of extensive dental work. As the old saying goes, one picture is worth a thousand words—and takes less of your time.

### Gagging

"What strange gingival tissue that is," the dental student said to the professor while examining a patient on his first day on the clinic floor. "It is so hard-looking, so red and so very shiny. Why does the gingival tissue look like that?"

"Well," said the professor, "there are many reasons why it might look like that. Some patients have glossy gingival tissue when there is infection present. Sometimes irritating calcular deposits cause the gingiva to be red and shiny, and very often pregnancy gingivitis will cause it. However, in this case it's red and shiny because that's a full denture the patient is wearing."

### GOLF INSTRUCTIONS FOR DENTISTS

A full course examination
Of every grassy blade,
To check contamination
Must first of all be made.

Any possible erosion spots
The diagnosis will supply,
So that the ball in all your shots
Will have a proper lie.

Slices, if they must be made,
Should be parallel to the green,
Or all the balls you hit will fade
And ne'er again be seen.

Whether it's an iron or a wood,
Cavities are easier to fill;
And the prognosis will be good
If relaxation heads the bill.

M.J.T.

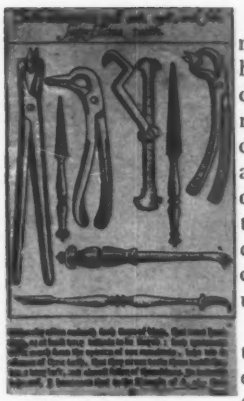
***A Pictorial History:***

# Dentistry in the Renaissance

## Part II

**(The sixth article in a series)**

**by Curt Proskauer, D.M.D.**



Dental Instruments from Lowe, London, 1612.

Although scientific, theoretical dentistry attained a high degree of perfection during the Renaissance, and newly designed or improved dental instruments offered an opportunity to develop dental practice into something more than a mechanical trade, we find that conditions remained almost unchanged.

The reason may be that the dentists, with very few exceptions, were not respectable citizens; they were men of little education or culture who were certainly not acquainted with the works of their important contemporaries. Vesal and nearly all the other medical men wrote in Latin, a language no dentist understood; Pare, the great surgeon, wrote in French, so that only French dentists, and such as bothered to read such voluminous works, could profit by his writings. Mechanical dentistry therefore remained

A Dentist at the Kermis, by Hans Sebald Beham, 1535.

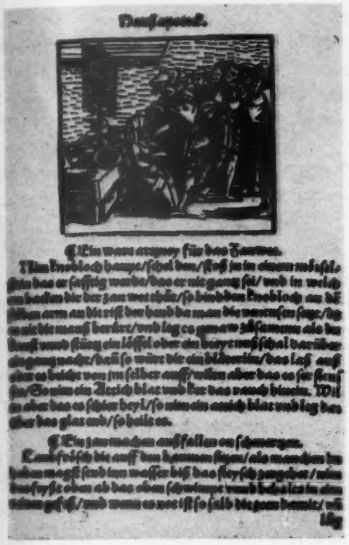
the chief interest: tooth pulling, binding carved false teeth to the adjoining teeth with wire, and cleaning, or rather whitening the teeth with extremely dangerous mineral acids which destroyed the enamel. Full upper and lower dentures, carved from the long bones of cows, with teeth simply indicated by vertical scratches, were held in the mouth between the lips and the alveolar arch like grotesque carnival tusks. Vanity was the sole motive of the wearers, since these dentures had to be taken out at meals; it was, of course, impossible to eat with them.

With the exception of the relatively few who practiced in offices or barbershops, where they pulled teeth and cut hair, the dentists were mountebanks or itinerant tinkers. They plied their trade

A painting by Mattheus van Hellmont (about 1650).

Cavadenti (dentist) by Annibale Carraccio (1646).

The Village Toothpuller by Adriaen van Ostade (



The Dentist, by Hans Sebald Beham, 1539.

The Toothbreaker, a woodcut by Hans Weiditz, 16th century.

in street corner booths or at public fairs and carnivals, where they yanked out teeth one after the other, like factory hands on the assembly line, and sold expensive and highly dubious tinctures, powders, dentifrices, lotions, and plasters as infallible cures for toothache, bad breath or difficult teething. The dentist's costume, equipment, and installation long remain the same: a plain table or an ordinary barrel or box on which is laid out medicaments in jars, bottles, and containers, along with instruments and innumerable extracted teeth, all surmounted by a flaglike diploma of questionable origin adorned with dental or medical scenes or a portrait of Saint Apollonia. In some cases an assistant, probably the dentist's wife, labors to extract money from the patient's pocket while the dentist is extracting his teeth. Several pictures of the period, woodcuts and etchings, show a crowd of people in the background; their gestures indicate they are waiting their turn for treatment by the tooth-breaker.

The Renaissance brought to life again the art of cosmetics, so familiar to the ancients, and dental cosmetics were not neglected. But here the fundamental interest was in preserving beauty, not the health of the teeth. Literary works on cosmetics gave directions for keeping the teeth clean and, above all, white. A Milanese physician recommends to *ceux qui sont forts diligatifs, comme les princes et grands seigneurs* ("those who are very particular, such as princes and noblemen") that they rub their teeth with a powder made of ground pearls mixed with fine sugar. He warns, however, that "this toothpowder is excellent, but very expensive." Since toothbrushes did not exist, food particles between the teeth had to be removed with toothpicks. The simple toothpick, made of wood or a quill, was transformed into an elegant *object d'art* made of gold or silver, most beautifully decorated and jewelled. This was a toilet article used by the higher classes not only at table but often also in public. They frequently wore it around their necks on a ribbon or a gold chain.

Dentist, by Adriaen (1605-1638).

A woodcut by Jobst Amman, 1568.

Edentarius. Der Zanbrecher.

Decorated toilet set with toothpick (Zanstorer). From: Georg Bartisch, Ophthalmodouleia, Dresden, 1583. It was worn around the neck.

A copperplate by Lucas van Leyden.

## Dental Wives:

by Kay Lipke

The doorbell started chiming and the knocker resounded loudly. Propped up in bed reading, Anne looked at the clock. It was nine-thirty. Chuck, her husband, was attending a dental convention at a downtown hotel. Surely he would use his key instead of making all that noise.

Wrapped in a robe, she tiptoed to the door and peeked through the peephole. There stook Chuck under the porch light beaming happily. He was surrounded by people, or so it seemed to startled Anne, who, married just two months, was not used to this situation. Hesitantly, she opened the door, and was instantly saluted by an exuberant husband.

"Greetings, my love! Here are four of my very favorite people who wanted to meet the bride." Whereupon, he introduced the two dentists and their wives to Anne as proudly as if she were resplendent in an evening dress.

Everyone sat down in the living room, laughing and talking to Anne, who was having a good time except for self-consciousness about her robe, bare feet, and bed-tousled hair. The five explained that at dinner they had reminisced over old times when the three men had attended dental college together and belonged to the same fraternity and the wives had gone to the dances and married early into the profession.

"Jack called me about five," one girl explained gaily to Anne. "He said to drop everything and come on down. So I turned off the oven, climbed into a suit, and was at the hotel in half an hour. I found these characters waiting. Chuck was all for going right home to you, Anne, but we coaxed him to stay, and the five of us made the rounds together."

While everyone seemed to talk at once and Chuck retired to mix drinks, Anne sat quietly listening—and thinking. Why hadn't Chuck called her to come down and join in the fun with the rest of them?

She did not want to make noises like a poor hurt little wife—heaven forbid!—but she was definitely disturbed. Anne liked a good time as well as the next one, and, if Chuck was proud enough of her to drag four people miles out of their way to meet her, why didn't he want her to be with the crowd at the convention?

While she dutifully smiled, sipped her drink, and learned to know and like her husband's friends, she tried to figure the thing out. At last she arrived at the correct solution: Chuck had not called her because the idea had never occurred to him. He had stagged it at dental conventions for years and to him a convention was for dentists—period!

On the other hand, his two dental friends had been married practically since graduation and their wives were almost as much a part of the dental world as they were. When the afternoon clinics were over, it seemed very natural to have the women join them for the festivities which followed. They had pressured Chuck into staying down with them, but it definitely was not his idea.

Chuck went to dental conventions to catch up on the new ideas in dentistry, attend some of the clinics, and meet a lot of men he seldom saw in the interim. He had married too late in his professional life to enjoy the fluff and froth of the evening festivities which included the women.

After she figured the thing out to her own satisfaction, Anne was quite happy. After all, there were different kinds of dentists, one not necessarily better than another—just different. Some enjoyed holding office in dental organizations and taking a very prominent part in all conventions, marking off three complete days on their office calendars, and spending the entire time at the hotel taking in every detail of the convention, including all the extraneous activities. Others, fully as devoted to their profession, would much rather concentrate on their own practice, going to the convention for only a few hours, seeing old friends and attending the more important clinics, but skipping the festivities.

Anne recognized another truth for the first time, also. She had arrived a bit late in her husband's professional career. She had made her appearance in the second act, so to speak, and could never really be a part of that magic, nostalgic period of his dental college days, days which are relived periodically by many of the men at dental conventions.

It did not matter, really. Being with him in the second act was pretty wonderful, and she was sure

(continued on page thirteen)

**Operative Dentistry: Part VII**

# Amalgam

*The seventh article in a series on Operative Dentistry, this is the second of three installments on Amalgam.*

**by Arthur H. Levine, D.D.S.**

Is moisture harmful to an amalgam filling? The evidence (which is ample) points to an emphatic "yes." And it makes no difference whether the moisture comes from mulling in the palm of the hand or from saliva that may seep in during the filling procedure.

Contamination by moisture can cause many distressing conditions. The worst one is acute pain. For years dentists have reported that some patients complain of an intense, cutting pain shortly after an amalgam filling has been placed. Such fillings are usually of average depth, so that proximity to the pulp cannot be blamed. The dentist is puzzled: the filling looks perfect and an X-ray reveals nothing. But he will end up by removing the filling, to the deep satisfaction of the patient.

Doctor J. J. Nachlin[1] recently studied this problem, which he calls "the amalgam reaction." He found that it occurred only in amalgam fillings that were contaminated with moisture. Although not every contaminated filling produced the pain, those teeth that were painful had, in each case, a contaminated filling.

Some men even today feel that mulling in the palm of the hand produces a smoother filling with greater plasticity. Investigation has proved, however, that this is not true and that contamination from the perspiration is harmful.

What actually happens to a filling that has been contaminated? An amalgam filling expands slightly during the first twenty-four hours. This expansion may average about 8 microns per centimeter. The American Dental Association recognizes this fact and has written it into its specifications. The Association allows up to 13 microns per centimeter for this period. The average filling which has been properly handled will continue to expand for months after amalgamation. But the amount is so small that it has no clinical significance. Hundreds of fillings tested showed, after a few months, that expansion had not exceeded the 13 micron limit. But in fillings intentionally contaminated by moisture the expansion jumped to 300 or 400 microns per centimeter. The expansion took place regardless of whether the moisture was persipration, saliva, or even pure distilled water.

Two distinguished researchers who investigated the problem concluded: "It was proved that a small amount of water incorporated into the amalgam during the mixing or placing of the restoration reacts with the zinc in the alloy to produce hydrogen. The entrapment of the hydrogen within the restoration creates pressures sufficient to expand the alloy against the underlying tooth structures, causing severe post-operative pain. . . . The extremely painful experiences suffered by thousands during the third to tenth day after an amalgam filling has been placed are no longer necessary if the dentist handles the amalgam with the proper care."

## What Proper Care Means

Proper care means no mulling in the hand or touching the filling at any time with the fingers. If the filling is mechanically mixed it can be deposited directly on a squeeze cloth. If it has been triturated in a mortar, it can be wiped out of the mortar with a squeeze cloth over the finger.

Proper care also means keeping the field dry as the filling is placed into the cavity. If rubber dam is used there is no problem. But if cotton rolls are employed, reasonable care must be taken. This may require changing the cotton rolls before the filling is completed, or it may require an extra cotton roll next to the upper first molar even though the cavity is in the lower jaw. Most men use a

## BATTLE DENTISTRY

**Palm Beach AF Base, Fla.—Lt. Col. James B. Neil, dental specialist from Fort Sam Houston General Army Hospital, describes some of the dental appliances he developed for treating malignant tumor and battle casualty cases. Colonel Neil, who served in the Tokyo Army hospital during the Korean conflict from June 1950 to June 1953, gave an illustrated talk on unusual dental restoration problems before the Palm Beach County Dental Society recently at Palm Beach Air Force Base. The meeting was sponsored by the 1707th USAF Hospital Dental Clinic, with Major James Shelton as host officer. Shown above are, left to right: Colonel Neil, Major Shelton, Doctor Taylor S. Adams, Doctor J. P. O'Callaghan, Doctor Leslie Bell and Doctor Roland Novak. Doctors O'Callaghan and Novak are president and vice-president of the society, respectively.**

saliva ejector in conjunction with cotton rolls. A few do not. Instead they get the cavity ready, using just cotton rolls, and then have the patient close on a wad of gauze while the filling is being mixed. This has the advantage of letting the patient bring the jaw into a restful position while waiting. It has the disadvantage of contamination if the patient salivates excessively. In some mouths, saliva is formed so rapidly that, aside from using rubber dam, the only way to keep the cavity dry is to mix the filling beforehand and have it ready on the bracket table before attempting to dry the cavity.

Each operator must decide for himself how best to keep the cavity dry. But dry it must be, and so must the filling.

In addition to pain, contamination by moisture can cause a deterioration in the compressive strength of the filling. Doctors W. Phillips, M.L. Swartz, and R. Boozayaangool[3] studied this problem last year. Here is their summary:

"A study of the effect of moisture contamination on the compressive strength of the amalgam has shown:

"I. Contamination of zinc alloy produces a loss of strength at the end of one year of 12,000 pounds per square inch, a 24 percent reduction in strength of the contaminated specimens compared with that of the uncontaminated specimens.

"2. The loss in strength becomes apparent at the end of one month, occurring simultaneously with the delayed expansion reaction.

"3. The loss in strength is of clinical significance and could unquestionably increase the possibility of fracture when the restoration is subject to stress.

"This research emphasized again the necessity of avoiding any possible moisture contamination of amalgam during mixing and condensation."

## Electrolytic Action

A discussion of amalgam fillings would be incomplete without some mention of the electrical phenomena associated with them on some occasions. Everyone who has handled amalgam fillings has, at some time, come face to face with the problem of electric shocks. It happens most frequently when an amalgam filling is placed in a tooth opposite one with a gold filling. Each time the patient brings the teeth together, the saliva acts as an electrolytic solution and a small current is generated, much to the annoyance of the patient. Or it can take place when a two-surfaced amalgam filling in one tooth lies adjacent to a gold filling in another tooth. The action of the tongue bringing saliva into the interproximal space between the two fillings is enough to make the patient jump. The same thing can happen between two amalgam fillings.

In most cases, the electrolytic action ceases when the new amalgam filling has completely set. On some occasions, however, the action persists over a longer period. In these cases (the pain can be severe) it is best to remove the filling.

Doctors W. Schriever and L.E. Diamond,[4] who have done considerable work on this problem, report many case histories, one of which follows:

"Aasgaard also reported his experience with a patient who had a four-piece gold bridge and two large amalgam fillings with a potential difference of 330mv (millivolts) between the bridge and one amalgam filling. Symptoms, such as irritation of the gingiva and the tongue, existed and the patient complained of pain in the tongue and in the palate. When the two amalgam fillings were replaced by baked porcelain the pain in the palate disappeared and the pain in the tongue diminished. The gold bridge was removed and an amalgam filling was found under a gold crown. When this amalgam restoration was replaced with gold the pain disappeared, the tongue regained its normal appearance, and the patient has remained without symptoms ever since. The potential difference between two gold restorations was around 70mv. This report indicates that the galvanic electrical effects due to dissimilar metallic dental restorations may cause pathological conditions in the mouth."

" . . . AND PLEASE LET SOMEONE GET A TOOTHACHE!"

Dentists have used amalgam and gold in the same mouth without too much concern. It is not always convenient or even advisable, from a restoration point of view, to use one filling material exclusively.

Although these electric shocks are unpleasant, the belief among most dentists is that these shocks are not serious and soon pass away. Research in this problem, however, seems to point to the fact that it may be more serious than is commonly believed. Relatively large electric currents may pass through metallic fillings if they are in contact.

### Using Different Metals

Another accepted practice that does not stand up in the light of recent research is that of placing amalgam directly against gold. In the case of a faulty margin next to a gold filling, it is not uncommon to use amalgam as a small repair. A gold crown that has been worn through the occlusal surface is frequently repaired with an amalgam filling. The feeling among most dentists is that the repair involves far less time and expense, yet it restores the tooth satisfactorily. In addition, they have never been too much concerned over the use of dissimilar metals in such cases since they are contiguous and hence have no solution between to set up the current.

But now investigators claim that the bone fluid is just as important as saliva in causing electric currents. If this is true, then amalgam and gold in close contact can do as much damage as amalgam and gold with saliva between. Even though the metals are in the same tooth, the current can start in one of the metals, go down the length of tooth through the so-called bone fluids, and then return up the length of the tooth to the other metal.

What is the best procedure? Wherever possible, it would appear best to avoid using dissimilar metals in the mouth. In many cases, the irritation set up is not of clinical significance. That is why so many patients are walking around without any disturbance due to dissimilar metals. But since it does constitute a hazard, it is best to avoid it within the bounds of being practical.

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## To The Deep Freeze

(continued from page five)

the Doe family wander back to Doctor X's competition.

Doctor X yields, which angers his dentist uncle. "We city dentists continue to lose our patients to you small-towners because you cut fees. Over the years our profession will lose fought-for ground and prestige."

Doctor X hangs his head at the next dental convention while classmates brag about their practice. Settletown's roots have strangled his old enthusiasm for his profession. Secretly he hopes his sons grow up to be physicians.

Doctor X prays that future dentists will anger and band together officially to obliterate cheap fees. He hopes they will say: "Let's deep-freeze cheap fees while times are prosperous. Instead of trying to squeeze another fellow out of practice, let's concentrate on educating the public to the fact that a dentist's time is worth as much as a physician's or an attorney's. Wage scales rise each year; so should dental fees!"

Doctor Scared may argue, "Maybe we'll need cheap fees again someday. I remember when times were tough. . . . "

Doctor Enthusiasm gags him. "We're only freezing cheap fees for a while. We can unthaw them if times change."

Doctor X dreams that a judge outlaws cheap fees, as attorneys have done, threatening those who refuse to play fair. He knows that dentists, able to enjoy a reasonable profit practice, won't want to unthaw cheap fees again.

Back in Settletown he locks his office door each night mumbling: "To the deep-freeze with cheap fees." People stare, hoping Doctor X isn't talking to himself. And Doctor X hopes he isn't, either.

## Dental Wives

(continued from page ten)

the third act would be just as fine. Furthermore, she realized there was a limit to the degree in which married couples should be expected to join in each other's activities. Anne knew how she would feel if Chuck tagged along at one of her college reunions.

The two couples left shortly before midnight in a flurry of gayety and promises for an early reunion.

When they were gone, Chuck grinned proudly at Anne. "You certainly were a good sport tonight, and everyone liked you a lot."

"I liked them, too," Anne said, smiling. "Next convention why don't we all plan to get together downtown?"

"Sure," yawned Chuck. "Why not?"

"That," Anne commented, "will be wonderful."

# FOR LIVING

# Dr. Daniel F. Lynch: A.D.A. President

by Joseph George Strack

**(The third and concluding article in a series)**

"To many men in the profession, the road to the presidency of the A.D.A. is a mystery," President Daniel Francis Lynch says. Grinning, he adds, "Even more mysterious is how one becomes a candidate at all, no less a winning candidate."

"There is nothing mysterious about any aspect of it," he insists. "I became a candidate because for many years I devoted every possible hour of my time to organizational duties, to professional teaching, to learning all that I could about dentistry's problems and possibilities—and, luckily for me, because many of my colleagues felt that I had gained sufficient knowledge to be useful in a post of such leadership. I say 'luckily for me' rather than 'luckily for our Association,' because the fine gentleman and distinguished dentist who ran against me at Cleveland would have made an excellent national president, of course. Many other dentists, I am sure, are as well informed and as devoted to dentistry as I am, and have the same high regard for the presidency that I have. But I was fortunate in other ways, too. For example, I had a top campaign manager, a man who certainly has all the presidential qualifications himself—Doctor David J. Fitzgibbon. Doctor Fitzgibbon knows more dentists personally in the United States than any other individual in the country. So far as I am concerned, I had the Jim Farley of dentistry on my side. Then too, I had a large number of loyal friends who worked day and night for my election. I could not have won without their help. And frankly, I had a driving desire to be A.D.A. President. I honestly believed that I could serve dentistry satisfactorily in that role if I had the chance. I sincerely felt that all my adult life had been something in the nature of preparation for this post. Those beliefs, however egotistical they might have been, made it possible for me to work with conviction at the thousand-and-one chores of trying to get elected A.D.A. President."

Doctor Lynch and the late Senator Lester C. Hunt at Bolling Air Force Base Dental Clinic, Washington, D.C., last year.

President Lynch tries not to think of his status as the official leader of American dentistry as a personal triumph. "It isn't, really," he points out. "All the qualifications of experience, education, and knowledge that supposedly fitted me for A.D.A. President—all of these were made possible by the profession itself. Dentistry and dentists gave me all of them. Now dentistry and dentists have the right to look to me to work selflessly for the profession and for those who equipped me to serve them. I intend to do exactly that."

Some clues to his professional philosophy that should interest every dentist and every dental student are found in an article that he wrote more than fifteen years ago for the *A.D.A. Journal*,[1] commentary that is as topical and as pertinent as if it had been written yesterday:

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1 Lynch, Daniel F., A Consideration of Important Phases of Exodontia Practice and Technic. *J. A. D.A.* 26:1170 (July) 1939.

There are still . . . . certain aspects of its (dentistry's) methods which would seem to make it more of a craft than a profession or a science. . . . It is . . . attributable to the fact that our dental school education may tend to narrow instead of broaden us, and, further, to the fact that our scientific and professional breadth is determined largely by what we learn in practice rather than what is taught in the dental school.

For example, in all of the schools of dentistry, there are skilled professors of exodontia and oral surgery. In fact, they are so good that they tend to narrow us, for the reason that if we learn from Professor Jones or Professor Smith, each of whom may be world-famous for his particular technics, we take the obvious short cuts by learning those technics instead of applying the broad scientific wisdom out of which Professor Jones or Professor Smith has created his fame. I do not wish these great professors to be less eminent or less individual in their personal methods. I do believe, however, that we deprive ourselves of the highest type of professional and scientific gratification when we follow the short cuts and become a "Jones man" or a "Smith man."

Dental education is now sufficiently aged and tested to be thoroughly scientific and professional. The soundness of its various principles has been tested in millions of special cases; and from these data, truths can be organized. Is it asking too much to urge that our professional institutions organize certain established and standard principles of exodontia and oral surgery which have been proved beyond a doubt, and that these principles be taught by the professors and be accepted as fundamental by all practitioners? I should like to see the special short cuts, methods and technics of our ablest professors made available to every student and practitioner, so that, instead of restriction, competition and even controversy, we may achieve breadth, flexibility and understanding. Each method has its own good qualities; likewise, each method has its own limitations. Such limitations and competition belong to trades and crafts, not to scientific or learned professions.

Elsewhere he has warned: "The man who knows only his professor's short cut will fail if he cannot meet the problems which his professor's system did not cover," and stated this opinion: "By expanding the base of our educational principles on scientific and demonstrable knowledge, we can escape from individual limitation and establish a still higher professional standard."

Students and practitioners alike will be interested in some of his other observations, stemming as they do from decades of professional experience. For example: "In most cases, the best surgeons practice the least surgery." And: "Often an extraction is a very serious matter—frequently more dangerous than an appendectomy." Finally: "If we are surgeons of the mouth, let us aspire to be thorough, not passing trouble and responsibilities

**The Nation's dental leaders witnessed the swearing in ceremonies for Brig. General Oscar P. Snyder of the Army Dental Corps last year when he was made Assistant Surgeon General of the Army and elevated to the rank of Major-General. Left to right: Doctor C. Willard Camalier, Washington representative and former President of the American Dental Association; Doctor Lynch, General Snyder, and Doctor Leslie M. Fitz Gerald former President American Dental Association and Doctor Francis J. Fabrizio, then President of the District of Columbia Dental Society, Washington, D. C. U. S. ARMY PHOTOGRAPH.**

**Doctor Lynch with Doctor Sterling V. Mead and Doctor Sterling G. Mead.**

Doctor Lynch (third from left, standing) with other members of the Armed Forces Medical Advisory Committee in the Pentagon, Washington, D. C., in July 1949.

on to some one else. Our specialty has now a high place in professional medicine, and its future is limited only by ourselves and what we pass on to our successors." To that every dentist can give a professional amen.

In discussing the significant impact that Doctor Lynch has made upon dentistry, the *Dental Survey*[2] said of him recently:

1. For 10 years, from 1937 to 1947, he was secretary of the ADA's Research Commission which, in collaboration with the Bureau of Standards, achieved noteworthy results in investigation of dental materials and in completing a survey of the problem of dental caries whose findings were invaluable arguments for creation of National Institute of Dental Research, authorized two years ago.
2. In 1940 he was given an official assignment to look into the problems of dental education and research relationships with Latin America. Concurrently, he headed ADA's International Relations Committee, and his success is indicated by the many honors conferred upon him by medical and dental societies, including (in 1947) fellowship in the Royal College of Surgeons of England.
3. His work for the ADA at home has included informal efforts through his many contacts in official Washington as well as direct assignments, and as a trustee he is one of 13 men charting a course for the Association under policies adopted by its House of Delegates.
4. For the past two years—until the committee was abolished in January—Dr. Lynch was a member of the Defense Department's Medical Advisory Committee which helped to work out the problems which culminated in last year's physician-dentist draft law.

Doctor Lynch, a bachelor, lives in a handsome eight-room house at 1678 Primrose Road, N.W., Washington, D.C., managed by Nettie, his housekeeper who has been with him for more than a quarter-century. Because of his presidential duties, he is at home even less than before. Also, he is away from his Dental Hospital weeks at a time, sacrificing much of an excellent surgery practice to meet his official A.D.A. obligations. Doctor Lynch will devote nine months away from his office in 1955 to traveling for the A.D.A.

The many steps that Dan Lynch took over a lifetime to prepare for the opportunity to serve his profession fill many pages of typescript. But, before his service to dentistry and dentists is over, his achievements will crowd even more pages. Having devoted a full quarter-century of his professional life to a cause with ardor and devotion, he has been rewarded with the highest position that can be bestowed upon an American dentist. It is fortunate that he is still a relatively young man, with many fruitful years ahead of him to continue serving his profession through the enriching experience and abundance of talents that have been so briefly outlined in this series of articles.

[2] *Dental Survey*, Vol. 27, No. 5, May 1951, "On the cover: Daniel F. Lynch, a busy man."

## MARRIED INTO THE PRACTICE

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The list of young loves plighted
And those the paper says will soon
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Will marry Billy Prentist;
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# RENAISSANCE

Our June TIC cover continues the salute to dentistry during the Renaissance.

It was during the later periods of the Renaissance that dental texts began to appear in increasing numbers. These early books threw the first rays of new light into the fields of oral and dental anatomy and surgery.

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